

APPLICANT(S): ARIDOR, Yariv *et al.*
SERIAL NO.: 10/631,620
FILED: July 16, 2003
Page 2

AMENDMENT TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer claims indicated as cancelled. The following Listing of Claims is intended to replace all prior versions and/or listings of claims in the application:

Listing of the Claims

1. **(Currently Amended)** A system for managing application complexes, each application complex comprising multiple tiers of servers, where servers in the same tier run an identical application and the servers of the multiple tiers work together to provide a specific service, the system comprising:

- a management server for managing multiple application complexes of different types, each defined according to a respective application-complex type; and

- a computer-implemented framework, executed by said management server and capable of managing said multiple application complexes of different types based on configuration information provided by a plugin for each respective application-complex type, the framework including:

- a plugin interface adapted for coupling said plugin to the framework, wherein the configuration information provided by said plugin encapsulates a relationship between one or more resources composing the respective application-complex type and respective characteristics of said resources; and

- a user interface adapted to the application-complex type according to the configuration information provided by said plugin, wherein said user interface is responsive to user operations input to said framework for defining an application complex as an instance of the application-complex type, and for allowing a user to control the association of servers with the multiple tiers of the application complex[[]],

- wherein the framework, in cooperation with said plugin, is capable of applying configuration operations on application complexes of the respective application-complex type.

2. **(Previously Presented)** The system according to claim 1, wherein said configuration information provided by the plugin includes information relating to the type of the application complex, the number of tiers, the application which the servers in each tier should run, and one or more properties of the application complex whose values can be specified by the user for each instance of the application-complex type.
3. **(Previously Presented)** The system according to claim 1, wherein the plugin is responsive to a change in one or more properties of the application complex for updating the framework and configuring at least one of said servers in accordance with said change.
4. **(Previously Presented)** The system according to claim 1, wherein said configuration information provided by the plugin includes information relating to one or more properties of the application complex whose values are to be monitored by the plugin, and wherein the plugin is adapted to monitor said properties and return their respective values or functions thereof to the framework.
5. **(Previously Presented)** The system according to claim 4, wherein the plugin monitors said properties automatically.
6. **(Previously Presented)** The system according to claim 4, wherein the plugin monitors said properties in response to a request by the framework.
7. **(Previously Presented)** The system according to claim 1, wherein the plugin is responsive to a new server being added to a tier in the application complex for updating the framework and automatically configuring the new server and other servers in the application complex that relate to the new server.
8. **(Previously Presented)** The system according to claim 1, wherein the plugin is responsive to a server being removed from a tier in the application complex for

updating the framework and automatically re-configuring said server and other servers in the application complex that relate to said server.

9. **(Previously Presented)** The system according to claim 1, wherein the plugin is adapted to request the framework add a new server.
10. **(Previously Presented)** The system according to claim 1, wherein the plugin is adapted to request the framework remove a server that belongs to the application complex.
11. **(Previously Presented)** The system according to claim 1, wherein the user interface is configured to allow a user to change one or more properties of an application-complex instance created by the user.
12. **(Previously Presented)** The system according to claim 1, wherein the user interface is configured to display properties of an application-complex instance created by the user and to allow one or more properties thereof to be changed.
13. **(Previously Presented)** The system according to claim 1, wherein the user interface is a graphical user interface.
14. **(Previously Presented)** The system according to claim 1, wherein the user interface is adapted to display current instances of application complexes, and to display servers currently included in each tier thereof.
15. **(Previously Presented)** The system according to claim 7, wherein the user interface is adapted to allow the user to move a server from a free pool of servers into a tier of an application-complex instance, and the framework is responsive thereto for identifying the plugin corresponding to said application-complex instance for requesting said plugin to reconfigure the server and other servers in the application-

complex instance that relate to said server according to the properties of the application-complex instance.

16. **(Previously Presented)** The system according to claim 8, wherein the user interface is adapted to allow the user to remove a server from a tier of an application-complex instance, and the framework is responsive thereto for identifying the plugin corresponding to said application-complex instance for requesting said plugin to reconfigure the server and other servers in the application-complex instance that relate to said server according to the properties of the application-complex instance.
17. **(Previously Presented)** The system according to claim 1, wherein the user interface is adapted to allow the user to move a server from a tier of a first application-complex instance to a tier of a second application-complex instance that is different from the first application-complex instance, the respective tier in each of said instances having an identical class, and the framework is responsive thereto for:
 - identifying the plugin corresponding to said first application-complex instance for requesting said plugin to reconfigure the server and other servers in the first application-complex instance that relate to said server according to the properties of the first application-complex instance, the plugin being responsive to said server being removed from the tier in the first application complex for automatically configuring said server and other servers in the first application complex that relate to said server; and
 - identifying the plugin corresponding to said second application-complex instance for requesting said plugin to reconfigure the server and other servers in the second application-complex instance that relate to said server according to the properties of the second application-complex instance, the plugin being responsive to said server being added to a tier in the second application complex for automatically configuring said server and other servers in the second application complex that relate to said server.

18. **(Previously Presented)** The system according to claim 1, wherein the user interface is adapted to allow the user to move a server from a first tier of an application-complex instance to a second tier thereof, said first and second tiers having an identical class, and the framework is responsive thereto for:

identifying the plugin corresponding to said application complex instance for requesting said plugin to reconfigure the server and other servers in the first tier and in the second tier of the application-complex instance that relate to said server according to the properties of the application-complex instance, the plugin being responsive to said server being removed from the first tier and added to the second tier for automatically configuring said server and other servers in the application complex that relate to said server.

19. **(Previously Presented)** The system according to claim 4, wherein the user interface is adapted to display the monitored values for each of the monitored properties of an application-complex instance created by the user and to interact with the plugin corresponding to each application-complex instance to receive the monitored values.

20–23. **(Cancelled)**.

24. **(Previously Presented)** A computer program product comprising a computer readable medium having stored thereon computer-readable program code for managing application complexes via a computer-implemented framework, each application complex comprising multiple tiers of servers, where servers in the same tier run an identical application and the servers of the multiple tiers work together to provide a specific service, each of said application complexes being definable via a respective application-complex type, the computer program product comprising:

computer-readable program code for causing a computer to interface a plugin to the framework for each respective application-complex type, to provide configuration information that encapsulates a relationship between one or more resources composing the respective application-complex type and respective characteristics of said resources; and

computer-readable program code for causing the computer to respond to user operations input thereto via a user interface that is adapted to the application-complex type according to the configuration information provided by said plugin, for defining an application complex as an instance of the application-complex type and for allowing a user to control the association of servers with the multiple tiers of the application complex,

wherein the framework is capable of managing multiple application complexes of different types based on the configuration information provided by said plugin for each respective application-complex type,

and wherein the framework, in cooperation with said plugin, is capable of applying configuration operations on application complexes of the respective application-complex type.

25. **(Previously Presented)** A method of managing application complexes using a management framework adapted for execution by a processor, each application complex comprising multiple tiers of servers, where servers in the same tier run an identical application and the servers of the multiple tiers work together to provide a specific service, each of said application complexes being definable via a respective application-complex type, the method comprising:

providing configuration information to the framework regarding an application-complex type via a respective plugin that supports said application-complex type, wherein the configuration information provided by said plugin encapsulates a relationship between one or more resources composing the respective application-complex type and respective characteristics of said resources;

responding to user operations input to said framework via a user interface that is adapted to the application-complex type according to the configuration information provided by said plugin;

defining an application complex as an instance of said application-complex type according to the configuration information provided by said plugin; and

allowing a user to control the association of servers with the multiple tiers of the application complex,

wherein the framework is capable of managing multiple application complexes of different types based on the configuration information provided by said plugin for each respective application-complex type,

and wherein the framework, in cooperation with said plugin, is capable of applying configuration operations on application complexes of the respective application-complex type.

26. **(Previously Presented)** The method according to claim 25, wherein said configuration information provided by the plugin includes information relating to the type of the application complex, the number of tiers, the application which the servers in each tier should run, and one or more properties of the application complex whose values can be specified by the user for each instance of the application-complex type.
27. **(Previously Presented)** The method according to claim 25, wherein the plugin is responsive to a change in one or more properties of the application complex for updating the framework and configuring at least one of said servers in accordance with said change.
28. **(Previously Presented)** The computer program product according to claim 24, wherein said configuration information provided by the plugin includes information relating to the type of the application complex, the number of tiers, the application which the servers in each tier should run, and one or more properties of the application complex whose values can be specified by the user for each instance of the application-complex type.
29. **(Previously Presented)** The computer program product according to claim 24, wherein the plugin is responsive to a change in one or more properties of the application complex for updating the framework and configuring at least one of said servers in accordance with said change.